

Appl. No. 09/863,910  
Resp. Dated Oct. 28, 2004  
Reply to Office Action of May 28, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1. (previously presented) A golf ball comprising:

a one-piece core made of a mixture of compound components comprising:

a polybutadiene rubber having a cis content of 92% or greater; and,

a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the core, wherein the core has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697; and,

a cover layer disposed upon the core.

Claim 2. (previously presented) The golf ball of claim 1 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth

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subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

Claim 3. (previously presented) A three-piece wound golf ball comprising:

a one-piece center made of a mixture of compound components comprising:

a polybutadiene rubber having a cis content of 92% or greater; and,

a heavy weight filler having a specific gravity of at least about 5.6, wherein the heavy weight filler comprises no more than about 1.95% volume of the center, and wherein the center produced with the heavy weight filler has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697;

a thread winding layer disposed upon the core wherein the thread layer comprises rubber; and,

a cover layer disposed upon the thread winding layer.

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Claim 4. (previously presented) The golf ball of claim 3 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

Claim 5. (previously presented) The golf ball of claim 1 wherein the heavy weight filler is selected from the group consisting of bismuth, bismuth oxide, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, ferrous oxide and mixtures thereof.

Claim 6. (previously presented) The golf ball of claim 1 wherein the heavy weight filler is selected from the group consisting of iron, steel, tin, chromium, ferrous oxide and mixtures thereof.

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Claim 7. (previously presented) A method of making a golf ball center comprising the steps of:

selecting a heavy weight filler having a specific gravity of at least about 5.6;

mixing the filler with a polybutadiene rubber, a rubber vulcanizing ingredient and core regrind, wherein the heavy weight filler comprises no more than about 1.95% volume of the center;

producing a plug;

curing the plug in a mold to form the center, wherein the center formed from the plug has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697.

Claim 8. (previously presented) The golf ball of claim 3 wherein the center produced with the heavy weight filler is selected from the group consisting of bismuth, bismuth oxide, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, ferrous oxide, and mixtures thereof.

Claim 9. (previously presented) The golf ball of claim 1 wherein the heavy weight filler is tungsten.

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Claim 10. (previously presented) The golf ball of claim 3 wherein the heavy weight filler is tungsten.

Claim 11. (previously presented) The golf ball of claim 3 wherein the one-piece core further comprises a vulcanizing agent.

Claim 12. (previously presented) A golf ball solid center comprising:

a compound wherein the compound comprises polybutadiene rubber having a cis content of 92% or greater; and,

an inorganic filler having a specific gravity equal to or greater than about 5.6, mixed with the compound to form the center, wherein the center has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697 and, wherein the heavy weight filler comprises no more than about 1.95% volume of the center, wherein the golf ball has a compression less than 97.3.

Claim 13. (previously presented) The golf ball solid center of claim 12 wherein the inorganic filler selected is tungsten.

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Claim 14. (previously presented) The golf ball solid center of claim 12 further comprising a vulcanizing ingredient.

Claim 15. (previously presented) The golf ball solid center of claim 12 further comprising a core regrind mixed with the compound.

Claim 16. (previously presented) The golf ball solid center of claim 12 wherein the mixed with the compound wherein the inorganic filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

Claim 17. (previously presented) The golf ball solid center of claim 12 wherein the compound further comprises zinc diacrylate.

Claim 18. (previously presented) The golf ball of claim 2 wherein the core further comprises core regrind.

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Claim 19. (previously presented) The golf ball center of claim 12 wherein the compound further comprises zinc oxide.

Claim 20. (previously presented) The golf ball center of claim 12 wherein the compound further comprises zinc stearate.

Claim 21. (previously presented) The golf ball center of claim 12 wherein the compound further comprises peroxide.

Claim 22. (previously presented) The golf ball of claim 1 wherein the ball produced with the heavy weight filler has a PGA compression lower than 97.3.

Claim 23. (previously presented) The golf ball of claim 3 wherein the ball produced with the heavy weight filler has a PGA compression lower than 97.3.

Claim 24. (previously presented) The golf ball of claim 1 wherein the golf ball produced with the heavy weight filler has a ratio of less than 15.285 parts heavy weight filler to 100 parts high cis polybutadiene.

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Claim 25. (previously presented) The golf ball of claim 3 wherein the golf ball produced with the heavy weight filler has a ratio of less than 15.285 parts heavy weight filler to 100 parts high cis polybutadiene.

Claim 26. (previously presented) The golf ball of claim 1 wherein zinc oxide is less than 5 parts filler to 100 parts high cis polybutadiene.

Claim 27. (previously presented) The golf ball of claim 3 wherein zinc oxide is less than 5 parts filler to 100 parts high cis polybutadiene.

Claim 28. (previously presented) A golf ball comprising:  
a one-piece core wherein the core has a PGA compression lower than 89.3 and a coefficient of restitution higher than .697, and wherein the core is made of a mixture of compound components comprising:

- a polybutadiene rubber having a cis content of 92% or greater;
- a peroxide curative; and,
- a heavy weight filler having a specific gravity equal to or greater than about 5.6, wherein the heavy



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weight filler comprises no more than about 1.95%  
volume of the core;  
a cover layer disposed upon the core wherein the golf  
ball produced with the heavy weight filler results in a PGA  
compression lower than 97.3.

Claim 29. (previously presented) A three piece wound golf  
ball comprising:

a one-piece center wherein the center has a PGA  
compression lower than 95.7 and a coefficient of  
restitution higher than .695 made of a mixture of compound  
components comprising:

a polybutadiene rubber having a cis content  
of 92% or greater; and,

a heavy weight filler having a specific  
gravity equal to or greater than about 5.6,  
wherein the heavy weight filler comprises no more  
than about 1.95% volume of the center;

a peroxide curative;

a zinc stearate;

a zinc oxide;

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a thread winding layer disposed upon the center wherein the thread layer comprises rubber forming a core; and,

a cover layer disposed upon the core wherein the golf ball produced with the heavy weight filler results in a PGA compression lower than 97.3.

Claim 30. (previously presented) The golf ball of claim 28 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.

Claim 31. (previously presented) The three piece golf ball of claim 29 wherein the heavy weight filler is selected from the group consisting of tungsten, bismuth, copper, bismuth oxide, nickel, cobalt, iron, steel, tin, chromium, zinc, bismuth subcarbonate, cupric oxide, barium tungstate, cuprous oxide, and mixtures thereof.